

Amendments to the Claims:

1-29. (Canceled)

30. (Currently Amended) A method for growing adherent cells ~~on a peptide-modified CAR-polymer surface~~, comprising:

(a) providing a cell adhesion promoting (CAP) peptide-modified polymer composition, said composition comprising a polymer surface, a hyaluronic acid (HA) layer bonded to said polymer surface, and one or more pentapeptides covalently bound to the HA layer, wherein said pentapeptides promote adherence of cells that substantially do not adhere to the HA layer in the absence of said pentapeptides; layer of adherent cells in a growth-promoting culture medium, which layer is produced in accordance with claim 29;

(b) ~~optionally, removing unattached (nonadherent) cells;~~

(b) adding adherent cells in a growth-promoting culture medium to said composition;

(c) allowing said adherent cells to adhere to said composition; and

(e)(d) incubating said ~~attached (adherent)~~ adherent cells in the culture medium for a selected period of time under conditions that support cell growth; thereby growing said adherent cells.

31. (Original) The method of claim 30 wherein said cells are fibroblasts or osteoblasts.

32-37. (Canceled)

38. (Currently Amended) The method of ~~claim 31~~ claim 30 wherein said ~~CAR surface is in the form of~~ polymer surface is formed from a flexible material.

39-64. (Canceled)

65. (Original) The method of claim 30 wherein said cells are liver cells.
66. (Original) The method of claim 30 wherein said cells are human or rat primary hepatocytes or porcine hepatocytes.
67. (New) The method of claim 30 wherein said one or more pentapeptides lack an RGD sequence.
68. (New) The method of claim 30, further comprising removing unattached (nonadherent) cells from the culture medium.
69. (New) A method for growing adherent liver cells, comprising:
- (a) providing a cell adhesion promoting (CAP) peptide-modified polymer composition, said composition comprising a polymer surface, a cell adhesion resistant (CAR) material bonded to said polymer surface, and one or more pentapeptides covalently bound to the CAR material, wherein said pentapeptides promote adherence of liver cells that substantially do not adhere to the CAR material in the absence of said pentapeptides;
 - (b) adding adherent liver cells in a growth-promoting culture medium to said composition;
 - (c) allowing said liver cells to adhere to said composition; and
 - (d) incubating said adherent liver cells in the culture medium for a selected period of time under conditions that support liver cell growth; thereby growing said adherent liver cells.
70. (New) The method of claim 69 wherein said cell adhesion resistant (CAR) material is hyaluronic acid (HA), alginic acid (AA), polyethylene glycol (PEG), or polyhydroxyethyl methacrylate (poly-HEMA).

71. (New) The method of claim 70 wherein said cell adhesion resistant (CAR) material is hyaluronic acid (HA).

72. (New) The method of claim 69 wherein said liver cells are human or rat primary hepatocytes or porcine hepatocytes.

73. (New) The method of claim 69 wherein said one or more pentapeptides lack an RGD sequence.

74. (New) The method of claim 69, further comprising removing unattached (nonadherent) liver cells from the culture medium.

75. (New) A method for growing adherent liver cells, comprising:

- (a) providing a cell adhesion promoting (CAP) peptide-modified polymer composition, said composition comprising a polymer surface, a hyaluronic acid (HA) layer bonded to said polymer surface, and one or more pentapeptides covalently bound to the HA layer, wherein said pentapeptides promote adherence of liver cells that substantially do not adhere to the HA layer in the absence of said pentapeptides;
- (b) adding adherent liver cells in a growth-promoting culture medium to said composition;
- (c) allowing said adherent liver cells to adhere to said composition; and
- (d) incubating said adherent liver cells in the culture medium for a selected period of time under conditions that support liver cell growth; thereby growing said adherent liver cells.

76. (New) The method of claim 75 wherein said liver cells are human or rat primary hepatocytes or porcine hepatocytes.

77. (New) The method of claim 75 wherein said one or more pentapeptides lack an RGD sequence.

78. (New) The method of claim 75, further comprising removing unattached (nonadherent) liver cells from the culture medium.

79. (New) A method for growing adherent cells, comprising:

- (a) providing a cell adhesion promoting (CAP) peptide-modified polymer composition, said composition comprising a polymer surface, a hyaluronic acid (HA) layer bonded to said polymer surface, and one or more peptides covalently bound to the HA layer, wherein said peptides promote adherence of cells that substantially do not adhere to the HA layer in the absence of said peptides and wherein said one or more peptides lack an RGD sequence;
- (b) adding adherent cells in a growth-promoting culture medium to said composition;
- (c) allowing said adherent cells to adhere to said composition; and
- (d) incubating said adherent cells in the culture medium for a selected period of time under conditions that support cell growth; thereby growing said adherent cells.

80. (New) The method of claim 79 wherein said cells are liver cells.

81. (New) The method of claim 79, further comprising removing unattached (nonadherent) cells from the culture medium.

82. (New) A method for growing adherent liver cells, comprising:

- (a) providing a cell adhesion promoting (CAP) peptide-modified polymer composition, said composition comprising a polymer surface, a cell adhesion resistant (CAR) material bonded to said polymer surface, and one or more peptides covalently bound to the CAR

material, wherein said peptides promote adherence of liver cells that substantially do not adhere to the CAR material in the absence of said peptides and wherein said one or more peptides lack an RGD sequence;

(b) adding adherent liver cells in a growth-promoting culture medium to said composition;

(c) allowing said liver cells to adhere to said composition; and

(d) incubating said adherent liver cells in the culture medium for a selected period of time under conditions that support liver cell growth; thereby growing said adherent liver cells.

83. (New) The method of claim 82 wherein said cell adhesion resistant (CAR) material is hyaluronic acid (HA), alginic acid (AA), polyethylene glycol (PEG), or polyhydroxyethyl methacrylate (poly-HEMA).

84. (New) The method of claim 83 wherein said cell adhesion resistant (CAR) material is hyaluronic acid (HA).

85. (New) The method of claim 82, further comprising removing unattached (nonadherent) liver cells from the culture medium.